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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/640,038 | 08/16/2000 | Christoph Dorr | TRW(EHR)05042 | 3171 |

7590 05/24/2002
Tarolli Sundheim Covell Tummino & Szabo LLP
1111 Leader Building
Cleveland, OH 44114

EXAMINER

GARCIA, ERNESTO

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3679

DATE MAILED: 05/24/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/640,038

Applicant(s)

DORR, CHRISTOPH

Examiner

Ernesto Garcia

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2000 and 11 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 2-5 and 7-10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the specification is missing headings. Appropriate correction is required.

Claim Objections

Claims 1, 12 and 14-16 are objected to because of the following informalities:

as to claim 1, the limitation --the-- is missing before "ball" and "joint" in line 2, before "axial" in line 6, and before "ball" and "joint" in line 8; --an-- is missing before "axial" in line 6, and the limitation "this" in line 7 should be --the--;

as to claim 12, --the-- is missing before "upper" and "lower" in line 2;

as to claim 14, a comma is needed after "(17)" and "joint" in line 3; and,

as to claim 15, a comma is needed after "(21,22)" and "joint" in line 2; and,

as to claim 16, a comma should be inserted after "(4)" in line 2 and after "(3)" in line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 6 and 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "it" in line 7 is unclear what feature of the invention it refers to. Furthermore, the limitation "a compressive force produced" and "permanently acting" is contradictory. If the force was produced, how can the force be still acting? Claim 1 recites the limitation "the gap" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitations "the contact area" in line 2 and "the axial position" in line 3. There is insufficient antecedent basis for these limitations in the claim. Furthermore, the limitation "a tolerance compensating effect" is unclear.

Regarding claim 11, it is unclear whether the upper shell and the lower shells are the two parts or other features than the two parts.

Regarding claim 12, the limitation "axial direction" in line 2 is unclear whether the axial direction is different than the axial direction recited on claim 1 in line 6.

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Claim 14 recites the limitations "the housing cover side" in line 2 and "the assembled state"" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the axial position" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the area" in line 2. There is insufficient antecedent basis for this limitation in the claim. The limitation "is brought into its ball shape" in line 3 is unclear what feature or part of the invention is brought into its ball shape.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11, 12 and 16, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Flumerfelt, 2,181,300 (see marked-up attachment).

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Regarding claim 1, Flumerfelt discloses in Figure 1 a ball-and-socket joint comprising a joint housing **10**, a ball head **25** with a ball pivot **26**, a bearing shell **22**, and a housing cover **33**. The bearing shell **22** is disposed between the ball head **25** and the joint housing **10**. A compressive force **F** is between the housing cover **33** and at least a portion **P** of the bearing shell **22**. The compressive force **F** permanently acts on the portion **P** and in an axial direction **D**.

Regarding claim 11, the bearing shell **22** is divided into an upper shell **22** and a lower shell **23**.

Regarding claim 12, a spring element **30** is arranged between the upper shell **22** and the lower shell **23**.

Regarding claim 16, an area **A** of the bearing shell **22**, facing in the direction **D**, is preferably cylinder-shaped.

Claims 1 and 6, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Morin, 4,318,627 (see marked-up attachment).

Regarding claim 1, Morin discloses in Figure 1 a ball-and-socket joint comprising a joint housing **10**, a ball head **12** with a ball pivot **23**, a bearing shell **14**, and a housing cover **16**. The bearing shell **14** is disposed between the ball head **12** and the joint

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housing **10**. A compressive force **C** is between the housing cover **16** and at least a portion **P** of the bearing shell **14**. The compressive force **C** permanently acts on the portion **P** and in an axial direction **x**.

Regarding claim 6, a contact area **6** of the bearing shell **14** is a deformable area.

Claims 1, 11 and 14, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Dresselhouse, 5,154,530 (see marked-up attachment).

Regarding claim 1, Dresselhouse discloses in Figure 4 a ball-and-socket joint comprising a joint housing **20**, a ball head **64** with a ball pivot **106**, a bearing shell **24**, and a housing cover **30**. The bearing shell **24** is disposed between the ball head **64** and the joint housing **20**. A compressive force **C** is between the housing cover **30** and at least a portion **P** of the bearing shell **24**. The compressive force **C** permanently acts on the portion **P** and in an axial direction **x**.

Regarding claim 11, the bearing shell **24** is divided into an upper shell **92** and a lower shell **122**.

Regarding claim 14, the upper shell **92**, on a side **S** of the housing cover **30**, has a collar **70** and the collar **70** is wedged between the housing cover **30** and a shoulder **72** of the joint housing **20**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flumerfelt, 2,181,300, in view of Herbenar, 3,945,737.

Regarding claim 13, Flumerfelt, as discussed above, fails to disclose the spring element is a wave-shaped spring washer. Herbenar discloses in Figure 7 a spring element **49** is a wave-shaped spring washer to provide a spring bias (col. 4, 58-63). Therefore, as taught by Herbenar, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the spring element being a wave-shaped spring washer to provide a spring bias.

Allowable Subject Matter

Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose or suggest a ball-and-socket joint comprising a collar of an upper bearing shell having deformable areas.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.


Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3620

E.G.

May 20, 2002

Attachments: one marked-up page of Flumerfelt, 2,181,300;
one marked-up page of Morin, 4,318,627; and,
one marked-up page of Dresselhouse, 5,154,530.

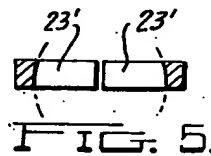
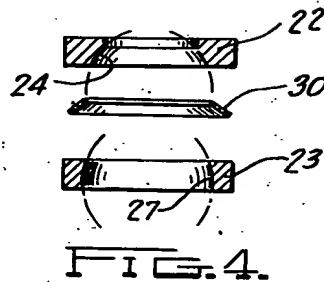
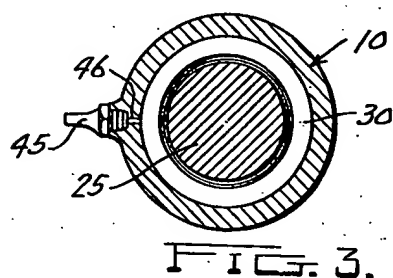
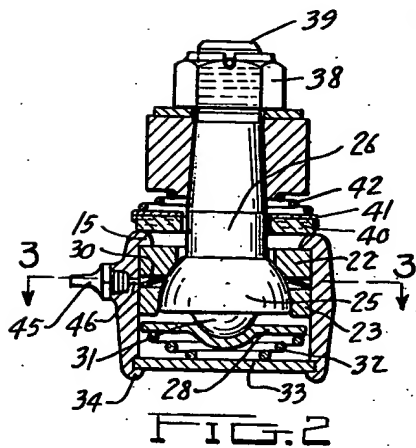
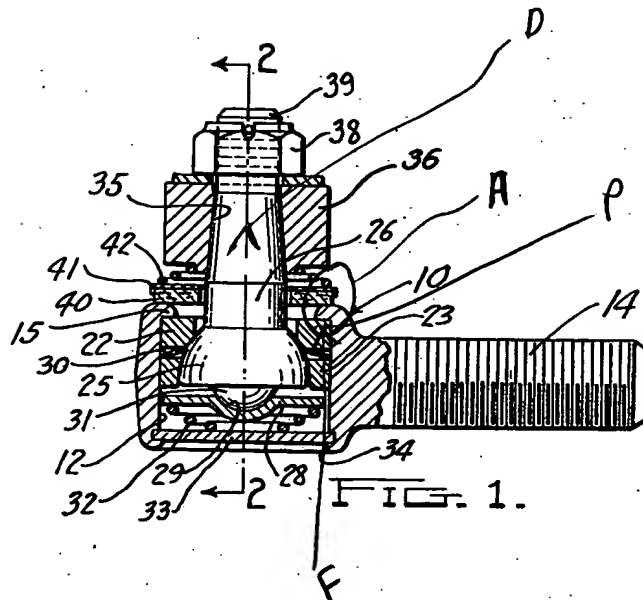
Nov. 28, 1939.

W. A. FLUMERFELT

2,181,300

BALL JOINT

Filed May 12, 1937



Inventor

William A. Flumerfelt

By *Brasletton, Whitcomb Davies*
Attorney

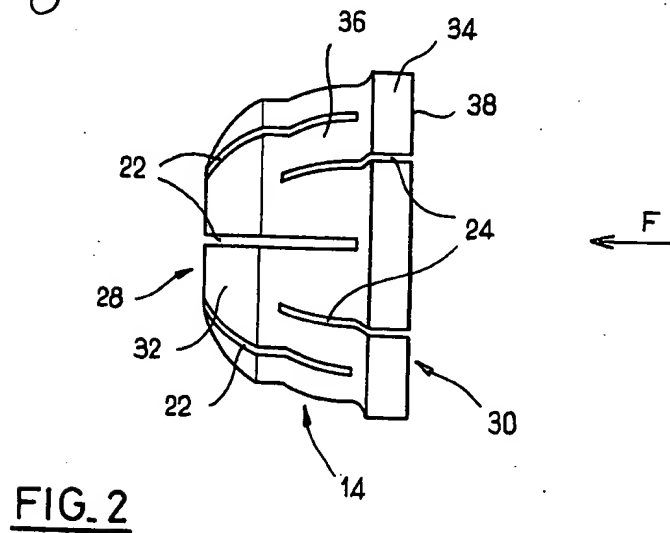
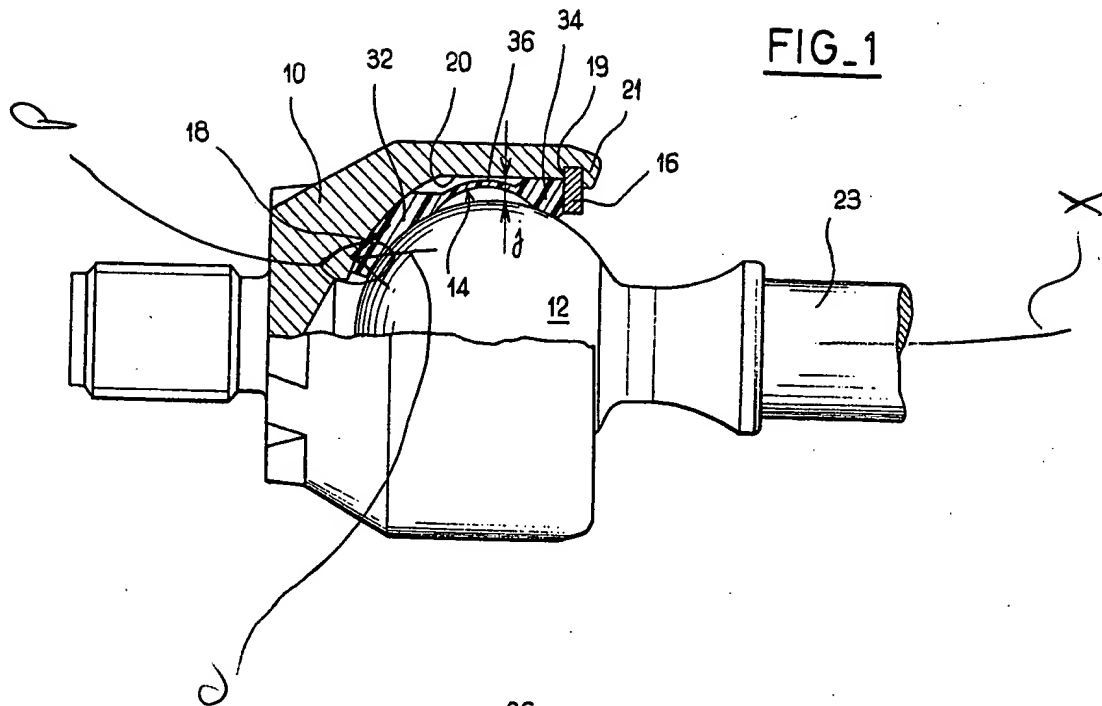


Fig.4

